

Claims

1. Doctor blade system for printing units, which is arranged for applying ink, lacquer, adhesive or the like to a rotatable cylinder in a printing unit, comprising an elongate frame, having a supporting portion and at least one clamping portion, which frame is arranged parallel to and outside the cylinder and on which are mounted, on each clamping portion of the frame, an elongate doctor blade also disposed parallel to the cylinder and arranged in operative position, to be wipingly applied against the cylinder, each clamping portion comprising an elongate slit into which a doctor blade is intended to be partly introduced and fixed by clamping means, **characterised in that** the clamping means (3, 4, 4b, 2', 2'', 3', 4') are resiliently arranged for providing a damping action for the doctor blade (5).
2. Doctor blade system according to claim 1, **characterised in that** the clamping means are closely received within the slit (6).
3. Doctor blade system according to claim 1 or 2, **characterised in that** the clamping means holds the doctor blade (5) by means of friction.
4. Doctor blade system according to any one of claims 1-3, **characterised in that** the clamping means are arranged to support at least one of the sides of the portion of the doctor blade (5) introduced in the slit (6).
5. Doctor blade system according to any one of claims 1-4, **characterised in that** the clamping means are resiliently accommodated in the slit (6).
6. Doctor blade system according to any one of claims 1-5, **characterised in that** the clamping means are removably arranged in the slit (6).

7. Doctor blade system according to any one of claims 1-6, **characterised in that** the clamping means comprises at least one elastomer member.

5 8. Doctor blade system according to claim 7, **characterised in that** a portion of the elastomer member is shaped as a wedge strip, having a shape adapted to fit and lock in the cross sectional profile of the slit.

10 9. Doctor blade system according to claim 7 or 8, **characterised in that** a portion of an elastomer member resiliently supports the edge (5') of the doctor blade (5) introduced in the slit (6).

10. Doctor blade system according to claim 7, 8 or 9, **characterised in that** the elastomer member has a hardness of about 70 degree Shore.

15 11. Doctor blade system according to any proceeding claim, **characterised in that** a clamping portion (2) and the supporting portion (10) of the frame (9) are separate parts, wherein end parts (10') of the supporting portion (10) are introduced and clamped by resilient clamping means (11).

20 12. Doctor blade clamping device comprising, a doctor blade clamping portion of a solid material having a slit, into which a doctor blade is intended to be introduced, and clamping means for clamping the doctor blade, **characterised in that** the clamping means (3, 4, 4b, 2', 2'', 3', 4') are resiliently arranged for providing a damping action for the doctor blade (5).

25 13. Doctor blade clamping device according to claim 12, **characterised in that** the clamping means are closely received within the slit (6).

30 14. Doctor blade clamping device according to claim 12 or 13, **characterised in that** the clamping means holds the doctor blade (5) by means of friction.

15. Doctor blade clamping device according to any one of claim 12-14, **characterised in that** the clamping means are arranged to support at least one of the sides of the portion of the doctor blade (5) introduced in the slit (6).

5

16. Doctor blade clamping device according to any one of claims 12-15, **characterised in that** the clamping means are resiliently accommodated in the slit (6).

10

17. Doctor blade clamping device according to any one of claims 12-16, **characterised in that** the clamping means are removably arranged in the slit (6).

18. Doctor blade clamping device according to any one of claims 12-17, **characterised in that** the clamping means comprises at least one elastomer member.

15

19. Doctor blade clamping device according to any one of claims 18, **characterised in that** a portion of the elastomer member is shaped as a wedge strip, having a shape adapted to fit and lock in the cross sectional profile of the slit.

20

20. Doctor blade clamping device according to claim 18 or 19, **characterised in that** a portion of an elastomer member resiliently supports the edge (5') of the doctor blade (5) introduced in the slit (6, 12).

21. Doctor blade clamping device according to anyone of claims 18-20, **characterised in that** the elastomer member has a hardness of about 70 degree Shore.

25

22. Chambered doctor blade system for printing units, which is arranged for applying ink, lacquer, adhesive or the like to a rotatable cylinder in a printing unit, comprising an elongate frame, having a supporting portion and two clamping portions, which frame is arranged parallel to and outside the cylinder and on which are mounted, on each clamping portion of the frame, an elongate doctor blade also dis-

posed parallel to the cylinder and arranged in operative position, to be wipingly applied against the cylinder, each clamping portion comprising an elongate slit into which a doctor blade is intended to be partly introduced and fixed by clamping means, **characterised in that** the clamping portions (2) and the supporting portion (10) of the frame (9) are separate parts, wherein the end parts (10') of the supporting portion (10) are introduced and clamped by resilient clamping means (11).

23. A printing unit, **characterised in** a doctor blade system according to anyone of claims 1-11 and 22.

10

24. Method for removably clamping a doctor blade in a clamping device comprising an elongate clamping portion of a solid material having a slit, into which a doctor blade is intended to be introduced and clamped by clamping means, **characterised by** the steps of:

15

- inserting a portion of the doctor blade (5) in the slit (6), and;
- inserting resilient clamping means resiliently supporting at least one side of the portion of the blade (5) accommodated in the slit.

20

25. Method according to claim 24, **characterised by** the step of lubricating the clamping means prior to inserting the clamping means.

26. Method according to claim 25, **characterised by** the step of manually inserting the clamping means, comprising an elastomer member.

25

27. Method according to any one of claims 24-26, **characterised by** the step of attaching the doctor blade clamping device on a substantially U-shaped profile.

30

28. Method for removably attaching a clamping portion (2), having a first and a second slit (6, 12), in which first slit (6) a doctor blade is intended to be introduced and clamped by clamping means, to a supporting portion (10) of a frame (9) of a cham-

bered doctor blade system, the frame having end parts (10'), **characterised by the steps of:**

- introducing the end parts (10') into the second slit (12), and;
- inserting resilient clamping means (11) resiliently supporting at least one side of the clamping portion.